

WHAT IS CLAIMED IS:

1. An optical space transmission device for one to plural bi-directional optical communications including:

transmission result detection means for determining subsequent to a polling sequence if a transmission to an associated office is performed successfully by detecting if a command of a predetermined content is returned from the associated office in response to data transmitted thereto at a predetermined luminous intensity; and

luminous intensity adjusting means for adjusting a subsequent luminous intensity based on a result of detection by said transmission result detection means.

2. The optical space transmission device as set forth in claim 1, wherein:

    said transmission result detection means determines if the command is returned based on a ratio of receiving error of the command.

3. The optical space transmission device as set forth in claim 1, wherein:

    said luminous intensity adjusting means is capable of adjusting the luminous intensity at multiple levels in such a manner that a luminous intensity is maximized

at a time of starting transmission, and as long as the transmission result detection means detects that a transmission is performed successfully, the luminous intensity is reduced by one level, while if the transmission result detection means detects that a transmission is not performed successfully, the luminous intensity is increased by one level, thereby determining a minimum required luminous intensity.

4. The optical space transmission device as set forth in claim 1, wherein:

the luminous intensity adjusting means adjusts the luminous intensity by increasing or decreasing the drive current of a light emitting element.

5. The optical space transmission device as set forth in claim 1, wherein:

said optical space transmission device can be used both as a host device and a peripheral device.

6. The optical space transmission device as set forth in claim 1, wherein:

only in its application to a peripheral device with respect to a host device for said optical transmission, said transmission result detection means and said luminous intensity adjusting means are

provided.